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CHAPTER SUMMARIES

[The following are summaries of each chapter. Arabic numerals correspond to chapter numbers]

1. The experience of World War II demonstrated the importance and effectiveness of the work performed by USSR medical workers in rendering aid after air attacks on populated regions. This experience has also shown the importance of the functions performed by civilian defense organizations as well as by the Red Cross and Red Crescent, membership in which is voluntary. It is necessary to instruct young medical workers of the middle category in the rudiments of the medical service involved, as well as to inform them how to participate in instruction of the population and of junior personnel attached to medical institutions. Medical personnel belonging to the middle category is also supposed to direct mass units (formations).

2. A focal area of disaster may be produced anywhere by an attack of enemy aviation. It is the task of the medical service, MPVO (Local Antiaircraft Defense), to render medical aid to the victims whenever such a disaster area comes into being. Antiepidemic and other prophylactic measures in that connection must also be carried out by the medical service.

To achieve this purpose, the city or rayon MPVO medical service first of all utilizes organizations, means, and personnel which are at the disposal of the city or rayon public health organizations. The MPVO medical service is based on facilities already existing within the scope of these organizations. Decontamination stations are organized by communal agencies, making use of public baths. Groups of people who are trained in first-aid methods and the transportation of injured are organized beforehand at dwellings and at industrial and other enterprises.

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The whole population must be trained in self-aid and mutual aid. This is accomplished by the Red Cross and the Red Crescent through GSO (Ready for Sanitary Defense) circles. Sanitary posts, sanitary groups of self-defense, and sanitary teams at dwellings, schools, enterprises, kolkhozes, and sovkhozes are formed from groups of people who have completed courses given by these circles. At industrial and other enterprises, medical brigades and units of the Red Cross and the Red Crescent are formed.

All injured are first examined by physicians. They are then directed to therapeutic institutions. These institutions are either PPM (Points of Medical First Aid) organized on the basis of dispensaries and ambulatory-polyclinic institutions or SPM (Stationary Points of Medical Aid) organized on the basis of hospitals, sanatoria, and health resort institutions.

All degassing chambers can be used for degassing clothing, no matter to which administrative unit they belong. To determine toxic agents in foodstuffs and water and to establish the degree of decontamination of clothing and other objects which is achieved in degassing chambers, special laboratories are organized which have all the necessary equipment for that purpose.

3. So that timely medical aid be rendered, medical units (Formations) are organized locally. Medical units of the MPVO medical service comprise the following: sanitary posts, sanitary teams, medical brigades, and medical first-aid detachments.

A sanitary post consists of five people who are provided with a stretcher and electric lantern.

A sanitary Red Cross or Red Crescent team is composed of three groups consisting of five people each. Each group is provided with equipment similar to that of a sanitary post. The leader of the team has a satchel of the type carried by a doctor's assistant. The sanitary team is a public organization and is designated by an order number assigned to it. The Red Cross or Red Crescent sanitary teams represent reserves of the city or rayon MPVO medical service and are used according to directions given by the city or rayon staff of this medical service. In wartime, sanitary teams function as sanitary posts in giving first aid at focal areas which have been hit and in transporting the injured. In peacetime, they may render aid in time of natural disaster or at public gatherings, public works, etc. A medical nurse, a doctor's assistant, or an experienced leader of a sanitary post is appointed as chief of the sanitary team.

MPVO medical brigades (commands) are organized at industrial and other enterprises. These brigades are composed of workers employed at the enterprise and are equipped according to a standard list. The detachments are equipped and trained at the expense of workers of the enterprise.

Detachments of medical first aid consist of two medical nurses, one orderly, and a physician who heads the detachment. These detachments operate in the focal area which has been affected or in its immediate vicinity. If necessary, they may engage the help of medical posts and other medical units located at the focal area. The chief of the detachment directs all medical work at the focal area.

4. Establishments of the MPVO medical service consist of stations at which medical aid is given before the injured are treated by a physician, by PPM, by SPM, and by hospitals. The first stations mentioned operate on the basis of doctor's assistant-midwife stations and medical stations of enterprises. The PPM give medical aid to persons suffering from light wounds, traumatic injuries,

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burns, or exposure to nonpersistent toxic agents. The SPM give medical aid to all classes of injured, including those who have been exposed to persistent toxic agents. The SPM also provide temporary hospitalization.

SOP (stationary washing point) decontamination stations provide washing and bathing facilities for people who have been exposed to persistent toxic agents. People who have been treated elsewhere with liquid or solid degasifiers (neutralizers) in order to counteract persistent toxic agents must also be provided with washing facilities there, because the neutralization products emit an unpleasant odor and furthermore may irritate the skin. The degasifiers are contained in antichemical packages which are used at the focal area of contamination. The manager of public baths or shower rooms used as a decontamination station assumes the duties of the chief of that station. The medical staff of SOP decontamination stations is appointed by the city or rayon MPVO and consists of medical personnel employed at local medical institutions. Wounded persons are not sent to decontamination stations, but they do receive medical aid there if they get in accidentally.

5. Specially adapted hospitals and hospital departments are used for treating the injured. Surgical hospitals or departments are used for treating people who have been exposed to vesicants and as a result have skin blisters and ulcers, for neurosurgical treatment of persons suffering from damages to the central and peripheral nervous system, etc. Therapeutic hospitals or departments are used in cases of victims suffering from damage to internal organs caused by exposure to toxic agents having a suffocating, generally toxic, or irritating effect. Therapeutic treatment must also be given to victims who rapidly exhibit pathological effects in respiratory organs or the gastrointestinal tract as a result of exposure to persistent toxic agents.

Hospitals and other medical institutions located in an MPVO zone must comply with all MPVO requirements for dwellings. This applies to blackout procedures, protection against fire and structural collapse, prevention of panic, first aid to victims at the site of the institution, and degassing of the grounds of the institution. All patients must be equipped with gas masks. A shelter for the patients must be provided.

The receiving room of a hospital functions as an SPM. A unitary integral MPVO brigade (command) composed of hospital workers is organized at the hospital for preventing panics and taking care of damage resulting from an attack. This brigade consists of the following sections: degassing, fire prevention, medical preservation of order, and repair of structural damage. The brigade is equipped with all necessary tools and supplies as enumerated in fighting equipment, stretchers, helmets, belts with snapping hooks, building supplies, etc.

The whole staff of medical institutions is trained for work under conditions necessitating operation of MPVO. They must be trained in their duties to such a degree of perfection that everything is done with almost automatic precision.

6. In view of the fact that the special equipment required is not available at medical institutions during peacetime, supplies used in connection with MPVO must be acquired according to special instructions and standard lists on the basis of procedures established by the Ministry of Public Health USSR. Equipment which spoils during storage must be replaced periodically. The costs of acquiring the supplies are born by the administrations under which the institutions and enterprises in question function. The equipment for sanitary posts of buildings used as dwellings is acquired at the expense of the inhabitants of the dwellings.

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The property of an MS (medical battalion) of the MPVO is used only for the purpose for which it is intended.

7. Under conditions necessitating the operation of MPVO, pharmacies must function smoothly in supplying drugs, bandages, etc., to medical institutions, to formations of the MPVO medical service, and to the population. Besides, first aid to victims must be given at pharmacies. Every pharmacy and pharmaceutical enterprise must plan beforehand, in detail, measures to be taken during an emergency. Even in peacetime, the following measures must be taken at these establishments:

a. Means for blacking out buildings must be provided; fire protection and other defense measures must be taken.

b. Individual means of protection for employees and equipment for degassing must be provided.

c. Arrangements for hermetically sealing the building occupied by the establishment (including storerooms for supplies and packaging) must be made, so that it will be possible to continue work in the case of contamination of the area with toxic agents.

d. Special groups (posts) must be organized at every workshop and department and instructed in the duties to be performed in the case of an air alarm.

e. Preparations must be made for giving premedical aid to persons that have been wounded, burned, or exposed to nonpersistent toxic agents.

f. The personnel must be trained for MPVO work.

g. Exhibits should be arranged, posters put up, and literature distributed in order to familiarize everybody with measures to be taken for self-aid and mutual aid under conditions necessitating operation of MPVO.

h. Popular political and educational work must be carried on according to a special plan.

8. [In this chapter, methods of rendering first aid are described in detail. The text is illustrated with numerous pictures. Measures to be taken in the following contingencies are discussed: destruction of buildings by bombing with resulting injuries to occupants, injuries due to explosion waves, loss of consciousness from all causes, epileptic attacks, burns, poisoning with various substances (alcohol, methanol, ethylene glycol used as antifreeze, strong acids and caustic alkalies, mercuric chloride, morphine, cocaine, phosphorus, toadstools, spoiled fish and other spoiled foodstuffs, industrial poisons including lead, mercury, zinc, hydrogen sulfide, arsenic, benzene, aniline, and agricultural poisons); shock due to electric current.]

9, 10. [These chapters describe methods of transporting injured persons and give information on gear and vehicles used for that purpose. First aid to victims who have been removed from the focal area is discussed, referring particularly to badly injured persons. Several pictures illustrate the text.]

11. [In this chapter, the fact that incendiary bombs were used extensively by the enemy during World War II is recalled. Methods of entering burning buildings, of removing injured persons from them, and of giving first aid to the victims are described.]

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12. [This chapter contains instructions for treating persons who have been injured by burning phosphorus.]

13. In a focal area contaminated with toxic agents, the action of these agents on the victims must be terminated as soon as possible. For that purpose, gas masks are put on the victims and they are evacuated immediately from the focal area. If gas masks are not available or it is impossible to use them, the mouth and nostrils of the victim are covered with a gauze bandage moistened with a solution of soda, a solution of urotropin, or water. To protect victims against the effects of hydrogen cyanide, a piece of absorbent cotton moistened with amyl nitrite is introduced under the gas mask. If the victim has been exposed to the effects of tear gas, his eyes are washed with a solution of sodium bicarbonate, a 2% solution of boric acid, or water. When the respiratory tract is irritated by tear gas, the victim is given antismoke mixture to inhale. A crushed ampule of antismoke mixture is introduced under the gas mask of victims who have been exposed to the effect of toxic agents which primarily irritate the upper respiratory tract. After the victims have been brought to a safe place and their gas masks removed, they should inhale antismoke mixture from absorbent cotton for 2 or 3 minutes.

When working in an area contaminated with persistent toxic agents (e.g., yperite, lewisite, and other vesicants), the personnel involved must wear protective clothing in addition to gas masks. All exposed skin areas and contaminated clothing must be treated with degasifier supplied in the antichemical packages. Shoe soles are treated with calcium chloride - calcium hypochlorite.

14. [This chapter includes general directions for treating victims exposed to toxic agents. Decontamination of clothes and cleaning of gas masks are mentioned. The precautions to be taken by the personnel doing this work are discussed. General instructions are given for the procedure to be followed in cases when the building or area of the first-aid station is threatened by fire or toxic agents.]

15. Blood transfusions are applied for the treatment of extensive burns and shock from all causes. In cases of poisoning with phosgene or diphosgene, the fact must be considered that a stage of apparent well-being often sets in prior to worsening of the patient's condition. The patient must be hospitalized and watched for signs of pulmonary edema, heart trouble, and other complications. In poisoning with HCN or CO, rapid and energetic treatment, which includes subcutaneous injection of antidotes, artificial respiration, and stimulation of the heart, must be applied. In seemingly hopeless cases of poisoning with these gases, good results are obtained by giving oxygen or carbogen (an oxygen - carbon dioxide mixture) to the patient.

When danger of contamination of the SPM building with persistent toxic agents exists, the personnel working outside (in the sorting and receiving departments) must wear protective clothing. The personnel of the shower room wears light protective clothing, but may dispense with gas masks.

16. In cases of victims who have been exposed to toxic agents, treatment of the mucous membranes of the eyes and the nasopharynx is carried out. The mouth must be rinsed out and repeated treatment of skin areas which have been in contact with liquid toxic agents is necessary. Wounds are bandaged and covered with waterproof outer bandages before the injured take showers. First aid is given when people become unconscious or show signs of impaired heart activity after taking a shower.

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17. Unless the hospital area has been contaminated with toxic agents, the hermetic closing is opened and normal ventilation started after the "all clear" has been sounded. In the daytime, the patients are then brought from the shelter into the wards. At night, the patients remain in the shelter if it is equipped with beds. If there is danger of chemical contamination, all means of hermetic closing which are available at the hospital remain shut until the area has been decontaminated. If the enemy has used persistent toxic agents, anyone who has been exposed to them is treated in the receiving room of the hospital or the nearest SPM. Patients who are able to walk may be sent to the nearest SOP.

Adequate measures must be taken for safeguarding auxiliary buildings of hospitals in the case of an air attack. Food products which have been contaminated with chemical agents must be purified or destroyed. Rooms and property which have been exposed to the effect of toxic agents must be decontaminated according to the rules established for such contingencies. Degassing is carried out by the hospital-unit MPVO brigade. Everyone in these brigades (including members of the medical section) must be familiar with degassing procedures, training in these procedures should not be limited to the personnel of the degassing section. A supply of chemical degassing agents (calcium chloride - calcium hypochlorite, ammonia, etc.) must be available.

18. This section contains two appendixes. Appendix I lists symptoms of poisoning from the following agricultural poisons: arsenic, copper salts, chromium salts, chlorpicrin, carbon disulfide or carbon monoxide (identical entries). First-aid measures are also listed.

APPENDIX II

<u>Toxic Agent</u>	<u>Degassing Agents</u>
Yperite	10-15% solution of chloroamine and dichloroamine. Calcium chloride - calcium hypochlorite moistened with water. Calcium hypochlorite.
Trichlorotriethylamine	The same agents.
Lewisite	Iodine infusion [?], 10% Lugol's solution, 5% NaOH solution, 10-15% solution of chloroamine or dichloroamine, calcium chloride - calcium hypochlorite moistened with water.
Phosgene	Alkalis, urotropin, soda, ammonia, polysulfides, hyposulfite.
Diphosgene	The same agents.
Chlorpicrin	Alcohol solutions of caustic soda. Solutions of sodium sulfide.
Carbon monoxide	Airing.
Hydrogen cyanide	Aqueous solutions of polysulfides, airing.
Chloroacetophenone	Strong solutions of sodium carbonate. Alcoholic solutions of alkalis. Sulfides of alkali metals.

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Toxic Agent

Bromobenzylcyanide

Diphenylchloroarsine

Adamsite

Degassing Agents

Alcoholic solutions of NaOH. Concentrated aqueous or alcoholic solutions of alkali metal sulfides.

Hydrogen peroxide. Ammonia.

The same agents.

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